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NOTICE OF ALLOWANCE AND FEE(S) DUE

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03/23/2009

DAVIS & BUJOLD, P.L.L.C. 112 PLEASANT STREET CONCORD, NH 03301 EXAMINER

SCHARICH, MARC A

ART UNIT PAPER NUMBER

3611

DATE MAILED: 03/23/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/562,042	02/15/2006	Rene Donnard	METPAT P79AUS	6142

TITLE OF INVENTION: HITCH COUPLING ASSEMBLY WHICH DAMPENS THE HUNTING MOVEMENTS OF ROAD TRAILER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/23/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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APPLICATION NO.	APPLICATION NO. FILING DATE		FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.		CONFI	RMATION NO.
10/562,042	02/15/2006		Rene Donnard		MI	ETPAT P79AUS		6142
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EXAM	INER	ART UNIT	CLASS-SUBCLASS					
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"Fee Address" indi PTO/SB/47; Rev 03-0 Number is required.	ondence address (or Char 3/122) attached. ication (or "Fee Address' 2 or more recent) attach	' Indication form ed. Us e of a Customer	(1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.					
PLEASE NOTE: Unl	ess an assignee is identi n in 37 CFR 3.11. Comp	fied below, no assignee	THE PATENT (print or type data will appear on the part of the part	atent. If an assigned assignment.			ocument l	has been filed for
Please check the appropri	ate assignee category or	categories (will not be pr	inted on the patent):	Individual 🖵 Cor	porati	on or other private gro	up entity	Government
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112 PLEASANT S		ART UNIT PAPER NUMBER				
CONCORD, NH 0	3301		3611			
		DATE MAILED: 03/23/2009				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 536 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 536 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

	Application No.	Applicant(s)			
	10/562,042	DONNARD, RENE			
Notice of Allowability	Examiner	Art Unit			
	MARC A. SCHARICH	3611			
The MAILING DATE of this communication apperature All claims being allowable, PROSECUTION ON THE MERITS IS herewith (or previously mailed), a Notice of Allowance (PTOL-85) NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RI of the Office or upon petition by the applicant. See 37 CFR 1.313	(OR REMAINS) CLOSED in or other appropriate commur GHTS . This application is su	this application. If not included nication will be mailed in due course. THIS			
2. ☑ The allowed claim(s) is/are <u>21-40</u> .					
3. Acknowledgment is made of a claim for foreign priority unal All b) ☐ Some* c) ☐ None of the: 1. Certified copies of the priority documents have 2. ☐ Certified copies of the priority documents have 3. ☐ Copies of the certified copies of the priority documents have International Bureau (PCT Rule 17.2(a)). * Certified copies not received:	been received. been received in Application cuments have been received	No in this national stage application from the			
Applicant has THREE MONTHS FROM THE "MAILING DATE" noted below. Failure to timely comply will result in ABANDONM THIS THREE-MONTH PERIOD IS NOT EXTENDABLE. 4. A SUBSTITUTE OATH OR DECLARATION must be subm INFORMAL PATENT APPLICATION (PTO-152) which give	IENT of this application. itted. Note the attached EXAI	MINER'S AMENDMENT or NOTICE OF			
 5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted. (a) hereto or 2) to Paper No./Mail Date (b) hereto or 2) to Paper No./Mail Date (c) hereto or 2) to Paper No./Mail Date (d) hereto or 2) to Paper No./Mail Date (e) hereto or 2) to Paper No./Mail Date (h) hereto or 2) to Paper No./Mail Date <li< th=""></li<>					
Attachment(s) 1. ☐ Notice of References Cited (PTO-892) 2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948) 3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material	6. ☐ Interview Sur Paper No./N 7. ☑ Examiner's A	ormal Patent Application mmary (PTO-413), Mail Date Amendment/Comment Statement of Reasons for Allowance .			

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with attorney Jay S. Franklin on 3/9/2009, as such amendments to the claims (as established below) were conceived during collaboration between the Examiner and Mr. Franklin. The application has been amended as follows:

Amendments to the Claims

(Claims 21-40 are amended as follows):

-- 21. An articulating coupling (4) for a vehicle assembly formed of a motor vehicle (1) and a trailer (2) comprising friction surfaces for damping yaw movement between the motor vehicle (1) and the trailer (2), the articulating coupling comprising a first pivot articulation (12), which only allows the yaw movements, having a pivoting disc device (40) for damping the yaw movement between the vehicle (1) and the trailer, said first pivot articulation being housed within a closed space which is protected from incoming pollution, and a second articulation (21), which allows both rolling and pitching movement and transmits the yaw movement between the motor vehicle (1) and the trailer (2) to the first pivot articulation without play, a first axle enabling the yaw movement between the motor vehicle (1) and the trailer (2) is completely

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disconnected from other axles enabling the rolling and the pitching movements comprising:

a first pivot articulation (12) pivotable about a vertical axis, which facilitates pivotal yaw movement and rolling movement between a motor vehicle (1) and a trailer (2), having a disc device (40) with pivoting friction surfaces for damping the pivotal yaw movement between the motor vehicle (1) and the trailer (2), the first pivot articulation (12) being enclosed within a closed space to seal the first pivot articulation (12) from incoming pollution; and

a second pivot articulation (21) pivotally coupled to the first pivot articulation (12) and pivotable about a single horizontal axis with respect to the vertical pivot axis of the first pivot articulation, to facilitate only pitch movement between the motor vehicle (1) and the trailer (2), the second pivot articulation (21) being laterally fixed to the first pivot articulation (12) in a rigid manner to inhibit play therebetween and to transmit only the rolling movement and the yaw movement between the first pivot articulation (12) and the trailer (2). --

- -- 22. The articulating coupling for a vehicle assembly according to claim 21, wherein the first pivot articulation allowing the yaw movement has a bearing rim. --
- -- 23. The articulating coupling for a vehicle assembly according to claim 21, wherein the second <u>pivot</u> articulation (21), which <u>allows transmits</u> the rolling and <u>pitching movement (21), prevents movement and the yaw movement between</u>

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the first pivot articulation (12) and the trailer (2) inhibits play in the rolling movement and the yaw movement between the first pivot articulation (12) and the trailer (2). --

- -- 24. The articulating coupling for a vehicle assembly according to claim 23, wherein an absence of play during the yaw movement is ensured by uniform planar contact between two planar surfaces (37, 38) of the first pivot articulation and the second pivot articulation (21), which permits both rolling and pitching movement, and the second pivot articulation is located vertically above the first pivot articulation (12), which only allows the yaw movements. --
- -- 25. The articulating coupling for a vehicle assembly according to claim 21, wherein the second <u>pivot</u> articulation (21), which allows the rolling and pitching movement is a spherically shaped articulation. --
- -- 26. The articulating coupling for a vehicle assembly according to claim 25, wherein the second <u>pivot</u> articulation (21), which allows the rolling and pitching movement, has a transverse axle (23) with two aligned rings (29, 30) that have complementary spherical shapes. --
- -- 27. The articulating coupling for a vehicle assembly according to claim 26, wherein the two rings (29, 30) are attached without in a rigid manner to inhibit any possibility of lateral play being assimilated by the yaw movement. --

-- 28. The articulating coupling for a vehicle assembly according to claim 21, wherein the pivoting disc device (40) for damping the yaw movement has at least one disc (41) with a friction surface that communicates with at least one opposing surface which is biased against the at least one disc (41) by a compression system that exerts an axial compression force on the at least one disc (41), at least one of said opposing surfaces being a friction surface. --

- -- 29. The articulating coupling for a vehicle assembly according to claim 28, wherein the pivoting disc device (40) for damping the yaw movement comprises a stack of friction discs (41) with friction surfaces, the discs (41) are alternately connected to one of the motor vehicle (1) or to the trailer (2), so as to pivot in relation to one another under the influence of the yaw movement. --
- -- 30. The articulating coupling for a vehicle assembly according to claim 29, wherein the stack of friction discs (41) with frictions surfaces contains at least one fixed disc (48) that is integral with a central hub (42) that is fixed in relation to the motor vehicle (1) and at least one movable disc (49) that is integral with a peripheral drum (43) that is movable in relation to the motor vehicle. --
- -- 31. The articulating coupling **for a vehicle assembly** according to claim 30, wherein an exterior wall (46) of the central hub (42) has notches and at least one of the fixed discs (48) has complementary notches on an interior periphery around a cutout (50) so that the fixed discs (48) remain fixed as the stack of **friction** discs (41) pivot in relation to the central hub (42). --

- -- 32. The articulating coupling for a vehicle assembly according to claim 30, wherein an interior wall (47) of the peripheral drum (43) has notches and at least one of the movable discs (49) has complementary notches on an exterior periphery so that the peripheral drum (43) engages and pivots the movable disc (49). --
- -- 33. The articulating coupling for a vehicle assembly according to claim 29, wherein the compression system comprises a cupel (54) that biases the at least one disc (41) such that the friction surfaces completely contact one another. --
- -- 34. The articulating coupling **for a vehicle assembly** according to claim 28, wherein the compression system of the **pivoting** disc device (40) is a mechanical system. --
- -- 35. The articulating coupling for a vehicle assembly according to claim 34, wherein the mechanical compression system of the pivoting disc device (40) comprises at least one spring (52). --
- -- 36. The articulating coupling **for a vehicle assembly** according to claim 34, wherein the mechanical compression system of the **pivoting** disc device (40) cooperates with a damping deactivation device that **one of either** reduces or interrupts damping **of** the yaw movement below a certain travel speed. --

-- 37. The articulating coupling for a vehicle assembly according to claim 36, wherein the damping deactivation device exerts axial force in a direction opposite to the compression force, thereby freeing the friction surfaces. --

- -- 38. The articulating coupling **for a vehicle assembly** according to claim 28, wherein the compression system of the **pivoting** disc device (40) is one of a pneumatic, hydraulic, or electric system and exerts an axial compression force. --
- -- 39. The articulating coupling **for a vehicle assembly** according to claim 38, wherein the articulating coupling further comprises a control circuit for regulating the axial compression force applied by the hydraulic, pneumatic, or electric compression system. --
- -- 40. The articulating coupling for a vehicle assembly according to claim [[21]] 30, wherein an exterior wall (8) of the articulating coupling has a threaded transverse opening (57) located opposite a bore (44) in the central hub (42) for one of measurement of wear on the friction stack of discs (41) with friction surfaces or for insertion of a threaded axle to exert increasing pressure on a cupel (54) and free the friction stack of discs (41). --

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Reasons for Allowance

Claims 21-40 are allowable due to independent claim 21 claiming an articulated coupling reciting at least (in combination):

- A first pivot articulation <u>pivotable about a vertical axis</u>
- The first pivot articulation <u>having a disc device with pivoting friction surfaces</u>
- The first pivot articulation <u>being enclosed within an closed space</u> to seal the first pivot articulation
- The first pivot articulation <u>facilitating pivotal yaw movement and rolling</u>
 movement <u>between a motor vehicle and a trailer</u> **AND**
- A second pivot articulation <u>pivotable about a horizontal axis relative to the</u>
 vertical axis of the first pivot articulation
- The second pivot articulation <u>facilitating only pitch movement between the</u>
 <u>motor vehicle and the trailer</u>
- The second pivot articulation <u>pivotally coupled to the first pivot articulation</u>,
 and <u>laterally fixed to the first pivot articulation in a rigid manner</u> to inhibit play therebetween
- The second pivot articulation transmitting only the rolling movement and the yaw movement between the first pivot articulation and the trailer

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC A. SCHARICH whose telephone number

is (571)272-3244. The examiner can normally be reached on M-F 8:30 a.m. - 5:00

p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lesley Morris can be reached on (571) 272-6651. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

M.A.S. - 3/13/2009

/Marc A. Scharich/ Patent Examiner Art Unit 3611

/Paul N. Dickson/ Supervisory Patent Examiner, Art Unit 3611